AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

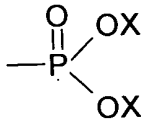
LISTING OF CLAIMS:

1.-59. (Cancelled)

60. (New) A dendritic polymer of generation n composed of:

- a central core § of valence m;
- optionally, generation chains branching around the core;
- an intermediate chain at the end of each bond around the core or at the end of each generation chain, where appropriate; and
- a terminal group at the end of each intermediate chain,

wherein m represents an integer from 3 to 8; n represents an integer from 0 to 12, and further wherein the terminal group is composed of the group of formula:



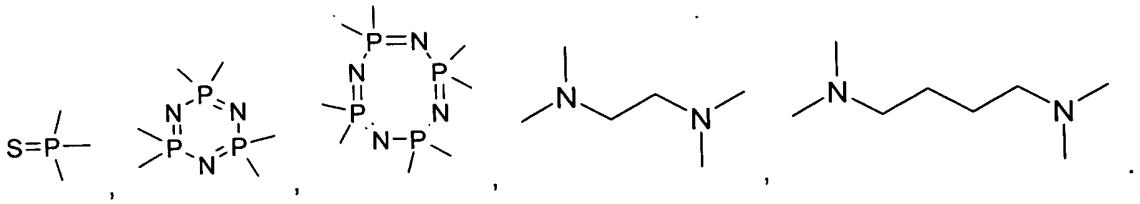
wherein each of the radicals X, which are identical or different, represents a radical –Me, -H and/or $-M^+$, wherein M^+ is a cation,

with the exception of the compound of formula:

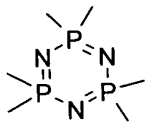
$$CH_3\text{-}CH_2\text{-}C[CH_2O\text{-}C(OSiMe_3)=CH\text{-}CH_2\text{-}P(=O)\text{-}(OH)_2]_3.$$

61. (New) A dendritic polymer according to claim 60, wherein the central core contains at least one phosphorus atom.

62. (New) A dendritic polymer according to claim 60, wherein the central core is selected from the following groups:



63. (New) A dendritic polymer according to claim 60, wherein the central core has the formula:



64. (New) A dendritic polymer according to claim 60, having a DAB-AM, PAMAM, or PMMH structure.

65. (New) A dendritic polymer according to claim 60, wherein M^+ represents the cation of an element of group IA, IIA, IIB or IIIA of the periodic table or M^+ represents $HNEt_3^+$.

66. (New) A dendritic polymer according to claim 60, wherein M is selected from sodium and potassium atoms.

67. (New) A dendritic polymer according to claim 60, wherein n is from 0 to 3.

68. (New) A dendritic polymer according to claim 60, wherein m is selected from 3, 4 and 6.

69. (New) A dendritic polymer according to claim 60, wherein the generation chains are selected from linear and branched hydrocarbon chains having from 1 to 12 chain members and optionally being one or more double or triple bonds, each of said chain members optionally being selected from a heteroatom, a group Aryl, Heteroaryl, >C=O, and >C=NR, each chain member being optionally substituted by

one or more substituents selected from -Alkyl, -Hal, $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -OAlkyl, -Aryl, and -Aralkyl,

wherein

R and R', which are identical or different, each independently of the other represents a hydrogen atom or a radical -Alkyl, -Aryl, or -Aralkyl.

70. (New) A dendritic polymer according to claim 60, wherein the generation chains, which are identical or different, are represented by the formula:

-A-B-C(D)=N-N(E)-(P(=G))< (C1)

wherein:

A represents an oxygen, sulfur or phosphorus atom or a radical -NR-;

B represents a radical -Aryl-, -Heteroaryl-, or -Alkyl-, each of which is optionally substituted by a Halogen atom or by a radical $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -Alkyl, -Aryl, or -Aralkyl;

C represents a carbon atom,

D and E, which are identical or different, each independently of the other represents a hydrogen atom, a radical -Alkyl, -OAlkyl, -Aryl, or -Aralkyl, each of which is optionally substituted by a Halogen atom or by a radical $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -Alkyl, -Aryl, or -Aralkyl;

G represents a sulfur, oxygen, selenium or tellurium atom or a radical =NR;

R and R', which are identical or different, each independently of the other represents a hydrogen atom or a radical –Alkyl, -Aryl, or -Aralkyl; and

< represents the two bonds at the end of each generation chain.

71. (New) A dendritic polymer according to claim 70, wherein A represents an oxygen atom.

72. (New) A dendritic polymer according to claim 70, wherein B represents a phenyl ring optionally substituted by a halogen atom or by a radical NO_2, -NRR', -CN, $-CF_3$, -OH, -Alkyl, -Aryl, or -Aralkyl.

73. (New) A dendritic polymer according to claim 70, wherein B represents an unsubstituted phenyl ring.

74. (New) A dendritic polymer according to claim 70, wherein D represents a hydrogen atom.

75. (New) A dendritic polymer according to claim 70, wherein E represents a radical –Alkyl.

76. (New) A dendritic polymer according to claim 70, wherein G represents a sulfur atom.

77. (New) A dendritic polymer according to claim 60, wherein the generation chains are represented by the formula:

-A'-(C=O)-N(R)-B'-N< (C1')

wherein

A' and B' each independently of the other represents a radical -Alkyl, -Alkenyl, or -Alkynyl, each of which is optionally substituted by one or more substituents selected from -Alkyl, -Hal, -NO_2, -NRR', -CN, -CF_3, -OH, -OAlkyl, -Aryl, and -Aralkyl; and

R and R' have the meanings defined in claim 60.

78. (New) A dendritic polymer according to claim 60, wherein the generation chains are represented by the formula:

-A''-N< (C1'')

wherein

A'' represents a radical -Alkyl, -Alkenyl, or -Alkynyl, each of which is optionally substituted by one or more substituents selected from -Alkyl, -Hal, -NO_2, -NRR', -CN, -CF_3, -OH, -OAlkyl, -Aryl, and –Aralkyl; and wherein R and R', which are identical or different, each independently of the other represents a hydrogen atom or a radical -Alkyl, -Aryl, or -Aralkyl.

79. (New) A dendritic polymer according to claim 60, wherein the generation chains are identical.

80. (New) A dendritic polymer according to claim 60, wherein the intermediate chains, which are identical or different, are represented by formula:

-J-K-L- (C2)

wherein

J represents an oxygen atom, a sulfur atom or a radical -NR-;

K represents a radical -Aryl-, -Heteroaryl-, or -Alkyl-, each of which is optionally substituted by a Halogen atom or by a radical $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -Alkyl, -Aryl, or -Aralkyl;

L represents a hydrocarbon chain having from 1 to 6 chain members and optionally having one or more heteroatoms and/or optionally having one or more double or triple bonds, each of said chain members being optionally substituted by one or more substituents selected from -OH, -NRR', and -OAlkyl; and

R and R', which are identical or different, each independently of the other represents a hydrogen atom or a radical –Alkyl, -Aryl, or -Aralkyl.

81. (New) A dendritic polymer according to claim 70, wherein J and K are equal to A and B, respectively.

82. (New) A dendritic polymer according to claim 80, wherein J represents an oxygen atom.

83. (New) A dendritic polymer according to claim 80, wherein K represents a phenyl ring optionally substituted by a Halogen atom or by a radical $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -Alkyl, -Aryl, or -Aralkyl.

84. (New) A dendritic polymer according to claim 80, wherein K represents an unsubstituted phenyl ring.

85. (New) A dendritic polymer according to claim 80, wherein L represents a radical –Alkyl-, -Alkenyl- or –Alkynyl-, each of which is optionally substituted by one or more substituents selected from –OH, -NRR', and -OAlkyl.

86. (New) A dendritic polymer according to claim 80, wherein L represents a radical –Alkenyl- or a radical –Alkyl-, optionally substituted by a radical –OH .

87. (New) A dendritic polymer according to claim 80, wherein L represents a radical –Alkyl- optionally substituted by a radical –OH.

88. (New) A dendritic polymer according to claim 60, wherein the intermediate chains are represented by formula (C2') :

-L''- (C2')

wherein L'' represents an –Alkyl- chain having from 1 to 6 chain members, optionally substituted by one or more substituents selected from –OH, -NRR', and -OAlkyl.

89. (New) A dendritic polymer according to claim 60, which is represented by the formula (I):

$$\S\text{-}\{\{A\text{-}B\text{-}C(D)=N\text{-}N(E)\text{-}(P(=G))<\}^{n}\text{-}[J\text{-}K\text{-}L\text{-}PO_3X_2]_2\}_m \quad (I)$$

in which:

§, A, B, C, D, E, G, N, P, J, K, L, X, m, n, and < have the meanings defined above.

90. (New) A dendritic polymer according to claim 60, which is represented by the following formula (I-2):

$$\S\text{-}\{\{A'\text{-}(C=O)\text{-}N(R)\text{-}B'\text{-}NH\text{-}\}^{n}[L''\text{-}PO_3X_2]\}_m \quad (I\text{-}2)$$

in which:

§, A', B', C, N, P, X, L'', m, and n have the meanings defined above.

91. (New) A dendritic polymer according to claim 60 which are represented by the following formula (I-3):

$$\S\text{-}\{\{A''\text{-}NH\text{-}\}^{n}[L''\text{-}PO_3X_2]\}_m \quad (I\text{-}3)$$

in which:

§, A'', N, P, X, L'', m, and n have the meanings defined above.

92. (New) A method for preparing a dendritic polymer according to claim 60, comprising:

(i) reacting the corresponding dendritic polymer having a terminal function -CHO, -CH=NR or $(P(=S)Cl_2$

with

a compound of formula $Z\text{-}PO_3Me_2$, wherein Z represents:

- either -H when the function is –CHO or -CH=NR,
- or the intermediate chain defined above when said function represents $-(P(=S)Cl_2$;

(ii) optionally followed, when X represents H or M, by a step which comprises converting the dendritic polymer obtained in (i) having a $-PO_3Me_2$ termination into the corresponding dendritic polymer having a $-PO_3H_2$ termination;

(iii) optionally followed, when X represents M, by a step which comprises converting the dendritic polymer obtained in (ii) having a $-PO_3H_2$ termination into the salt of the corresponding dendritic polymer having a $-PO_3M_2$ termination.

93. (New) A method for preparing a dendritic polymer according to claim 89 of formula (I)

$$§\text{-}\{\{A\text{-}B\text{-}C(D)=N\text{-}N(E)\text{-}(P(=G))<\}^n[J\text{-}K\text{-}L\text{-}PO_3X_2]_2\}_m \qquad (I)$$

in which:

§, A, B, C, D, E, G, N, P, J, K, L, X, m, n, and < have the meanings defined above, wherein said method comprises:

(i) a step which comprises treating the corresponding dendritic polymer of formula

$$§\text{-}\{\{A\text{-}B\text{-}C(D)=N\text{-}N(E)\text{-}(P(=G))<\}^nY_2\}_m \qquad (II\text{-}1)$$

wherein Y represents:

- either -J-K-L', wherein L' represents a radical –CHO or -CH=NR;
- or –Cl;

with a compound of the formula $Z\text{-}PO_3Me_2$, wherein Z represents:

- either H- when Y represents -J-K-L';

- or H-J-K-L- when Y represents Cl;

to obtain a dendritic polymer of formula (III-1):

$$\S\text{-}\{\{A\text{-}B\text{-}C(D)=N\text{-}N(E)\text{-}(P(=G))<\}^n[J\text{-}K\text{-}L\text{-}PO_3Me_2]_2\}_m \qquad (III\text{-}1)$$

in which:

§, A, B, C, D, E, G, N, P, J, K, L, R, m, n, and < have the meanings defined above,

(ii) optionally followed, when X represents H or M, by a step which comprises converting the dendritic polymer of formula (III-1) obtained in (i) into the corresponding dendritic polymer of formula (I) in which X represents a hydrogen atom, according to the following reaction scheme:

$$\S\text{-}\{\{A\text{-}B\text{-}C(D)=N\text{-}N(E)\text{-}(P(=G))<\}^n[J\text{-}K\text{-}L\text{-}PO_3Me_2]_2\}_m \qquad (III\text{-}1)$$

$$\downarrow$$

$$\S\text{-}\{\{A\text{-}B\text{-}C(D)=N\text{-}N(E)\text{-}(P(=G))<\}^n[J\text{-}K\text{-}L\text{-}PO_3H_2]_2\}_m \qquad (IV)$$

in which §, A, B, C, D, E, G, N, P, J, K, L, n, m, and < have the meanings defined above,

(iii) optionally followed, when X represents M, by a step which comprises converting the dendritic polymer of formula (IV) obtained in (ii) into the corresponding salt of formula (I) wherein M represents a metal atom.

94. (New) A method according to claim 83, wherein step (i) comprises the following reaction:

$$\S\text{-}\{\{A\text{-}B\text{-}C(D)=N\text{-}N(E)\text{-}(P(=G))<\}^n\text{-}[J\text{-}K\text{-}L']_2\}_m \qquad (V)$$

$$\downarrow \quad + \quad H\text{-}PO_3Me_2 \qquad (VI)$$

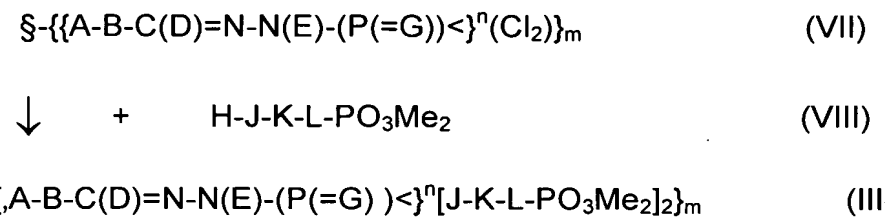
$$\S\text{-}\{\{A\text{-}B\text{-}C(D)=N\text{-}N(E)\text{-}(P(=G))<\}^n[J\text{-}K\text{-}L\text{-}PO_3Me_2]_2\}_m \qquad (III\text{-}1)$$

wherein §, A, B, C, D, E, G, N, P, J, K, L, L', m, n, and < have the meanings defined above, and

wherein said reaction is carried out in the presence of an organic or inorganic base, at a temperature of from -80°C to 100°C.

95. (New) A method according to claim 94, wherein the base is triethylamine.

96. (New) A method according to claim 93, wherein step (i) comprises the following reaction:



§-{{A-B-C(D)=N-N(E)-(P(=G))<}^{n}(Cl_2)}$_m$ (VII)

↓ + H-J-K-L-PO_3Me_2 (VIII)

§-{,A-B-C(D)=N-N(E)-(P(=G))<}^{n}[J-K-L-PO_3Me_2]$_2$}$_m$ (III-1)

wherein

§, A, B, C, D, E, G, N, P, J, K, L, m, and n have the meanings defined above, and

wherein said reaction is carried out in solution in a polar aprotic solvent, in the presence of an organic or inorganic base, at a temperature of from -80°C to 100°C.

97. (New) A method according to claim 96, wherein the base is cesium carbonate.

98. (New) A method for preparing a dendritic polymer according to claim 60 of formula (I-2)

§-{{A'-(C=O)-N(R)-B'-NH-}^{n}[L''-PO_3X_2]}$_m$ (I-2)

or of the following formula (I-3):

§-{{A''-NH-}^{n}[L''-PO_3X_2]$_2$}$_m$ (I-3)

in which §, A', B', C, A'', N, P, X, L'', m, and n have the meanings defined above, comprising

step (i), which comprises reacting the corresponding dendritic polymer n of formula

§-{{A'-(C=O)-N(R)-B'-N=R}^{n}}$_m$ (II-2)

or §-{{A''-N=R}^{n}}$_m$ (I-3)

wherein R is a radical >Alkyl,

with a compound of the formula $H\text{-}PO_3Me_2$ (VI),

(ii) optionally followed, when X represents H or M, by a step which comprises converting the dendritic polymer of formula (III-2) or (III-3) obtained in (i) in which X represents a Methyl radical into the corresponding dendritic polymer of formula (I-2) or (I-3) in which X represents a hydrogen atom, according to the following reaction scheme:

$$\S\text{-}\{\{A'\text{-}(C{=}O)\text{-}N(R)\text{-}B'\text{-}NH\text{-}\}^n[L''\text{-}PO_3Me_2]\}_m \qquad \text{(III-2)}$$

$$\text{or } \S\text{-}\{\{A''\text{-}NH\text{-}\}^n[L''\text{-}PO_3Me_2]\}_m \qquad \text{(IIII-3)}$$

$$\downarrow$$

$$\S\text{-}\{\{A'\text{-}(C{=}O)\text{-}N(R)\text{-}B'\text{-}NH\text{-}\}^n[L''\text{-}PO_3H_2]\}_m \text{ (IV-2)}$$

$$\text{or } \S\text{-}\{\{A''\text{-}NH\text{-}\}^n[L''\text{-}PO_3H_2]\}_m \qquad \text{(IV-3)}$$

(iii) optionally followed, when X represents M, by a step which comprises converting the dendritic polymer of formula (IV-2) or (IV-3) obtained in (ii) into the corresponding salt.

99. (New) A method according to claim 98, wherein step (i) is carried out in the presence of an organic or inorganic base, at a temperature of from -80°C to 100°C.

100. (New) A method according to claim 98, wherein reaction (ii) is carried out:

- by the action of a trimethylsilane halide, in a polar aprotic organic solvent,
- followed by the action of anhydrous MeOH, which is added to the reaction mixture.

101. (New) A method according to claim 100, wherein the trimethylsilane halide is Me_3SiBr.

102. (New) A method according to claim 98, wherein step (iii) comprises a reaction in which the compounds of formula (IV) are made to act in the presence of a base.

103. (New) A method according to claim 102, wherein the base is selected from sodium hydroxide and potassium hydroxide.

104. (New) A compound of formula (VIII):

$$Z\text{-}J\text{-}K\text{-}L\text{-}PO_3Me_2 \qquad (VIII)$$

in which

Z represents H or a protecting group for the function –JH;

J represents an oxygen atom, a sulfur atom or a radical –NR-;

K represents a radical –Aryl-, -Heteroaryl-, or -Alkyl-, each of which is optionally substituted by a Halogen atom or by a radical $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -Alkyl, -Aryl, or -Aralkyl;

L represents a linear or branched hydrocarbon chain having from 1 to 6 chain members, each of said chain members optionally being selected from a heteroatom, and/or optionally having one or more double or triple bonds, each of said chain members being optionally substituted by one or more substituents selected from –OH, -NRR', -OAlkyl, -Alkyl, -Hal, $-NO_2$, -CN, $-CF_3$, -Aryl, and -Aralkyl.

105. (New) A compound according to claim 104, wherein J represents an oxygen atom.

106. (New) A compound according to claim 104, wherein K represents an optionally substituted phenyl ring.

107. (New) A compound according to claim 104, in which K represents an unsubstituted phenyl ring.

108. (New) A compound according to claim 104, in which L represents a radical –Alkyl- optionally substituted by a radical –OH, or L represents a radical -Alkenyl-.

109. (New) A compound according to claim 104, in which L represents a radical –Alkyl-.

110. (New) A method for preparing a compound of formula (VIII) according to claim 104, in which Z represents a hydrogen atom, which method comprises a step comprising the following reaction:

$$Z\text{-}J\text{-}K\text{-}L\text{-}\ PO_3Me_2 \quad (VIII) \rightarrow H\text{-}J\text{-}K\text{-}L\text{-}\ PO_3Me_2\ (VIII)$$

wherein J, K, and L have the meanings defined above and Z represents a protecting group for the function –JH,

by deprotecting the protecting group Z.

111. (New) A method according to claim 110, wherein Hal represents bromine.

112. (New) A method according to claim 110, comprising a step in which tetrabutylammonium fluoride is made to act on the corresponding compound of formula (X), when J represents an oxygen atom and Z represents the group TBDMS (tert-butyl-dimethyl-silyl radical).

113. (New) A method for preparing a compound of formula (VIII) according to claim 110, in which the compound of formula (VIII) wherein Z represents the protecting group for the function –JH is obtained by a step which comprises the following reaction:

$$Z\text{-}J\text{-}K\text{-}L\text{-}Hal\ (IX) \rightarrow Z\text{-}J\text{-}K\text{-}L\text{-}\ PO_3Me_2\ (VIII)$$

wherein J, K, L, and Z have the meanings defined in claim 110 and wherein Hal represents a halogen atom,

by application or adaptation of Arbuzow's reaction.

114. (New) A method according to claim 113, in which the product of formula (IX) is reacted in the presence of trimethyl phosphite of formula $P(OMe)_3$ (X), at a temperature of from -80°C to 150°C.

115. (New) A method for treating surfaces or being in contact with surfaces comprising using a dendritic polymer according to claim 60.

116. (New) A method according to claim 115, wherein said surfaces are metal, silica-based or oxide-based.

117. (New) A method according to claim 115, wherein said dendritic polymer is used as an additive in a composition that is to be in contact with or to treat said surface.

118. (New) A method according to claim 115, wherein said dendritic polymer is used as an anti-corrosive agent, a lubricating agent, a scale preventer or a flame retardant.